

Vikane* gas fumigant

DPR & County Ag 2003 Training

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Dow AgroSciences LLC

Agenda

- Stewardship Policy Review
- TRAP
- Aeration Review
- Chloropicrin Review
- Structural Fumigation Manual Review

CA Vikane Team

- Barb Snowden 661-724-9008 (New #)
 - LA, Ventura, Santa Barbara
- Jolene West 949-589-9701
 - Orange, Riverside, San Bernardino
- Stan Woodward 949-366-1182
 - San Diego
- Irene Wallbaum 661-664-8990
 - SLO, Kern, Fresno
- James Fung 408-400-0117
 - Northern CA

Vikane Gas Stewardship Policy “Caretaker Program”

- Written policy to all operators and distributors of Vikane Gas
- Required yearly training to all operators and licensees
 - Recommended for each major fumigation county Ag Dept. to be the recipient of this in-house program



Vikane Gas Stewardship Policy “Caretaker Program”

- 4 key areas
 - Interscan Use (aeration)
 - SCBA (all safety areas)
 - Chloropicrin (proper application and use)
 - Secondary Locks (new for 2003)



Stewardship, continued.....

- QAR (*Quality Assurance Review*) field training record
- Warning, Probation, Stop Sale
 - Method to Help Improve Stewardship
 - Prevent Human Injury
 - Preserve Structural Fumigation

Vikane Gas Stewardship Policy

Where can you get involved?

- Attend the annual training program
 - In -house at your location
 - DAS or Vikane distributors
- Contact DAS if you have concerns with a Branch I operator and company or licensees
- Communication...Communication...
 - Input on future training, clarification, suggestions, talk early to avoid confusion.

TRAP Procedure

- Purpose
 - Reduce fumigant concentration between the tarp and the structure, thereby minimizing exposure to the crew by allowing removal without exceeding 5 ppm exposure limit.
 - Compliments label requirements.

TRAP Procedure

- Where to find a hard copy
 - Title 3, CCR, Section 6780 (c)
- Whole training program with pictures is available

Vikane* Aeration Review

Following the TRAP,

- SCBA if above 5ppm
- SCBA not required after the initial 1 hour aeration

Procedure 1 16 oz/MCF or less

Procedure 2 Greater than 16 oz/MCF

Vikane* Aeration Review

- Step (1) Aerate structure with all operable window and doors open, aided by the use of 1 or more fans, for a minimum of 1 hour. *A total of one or more fans shall be capable of displacing a total of 5,000 cfm.*
- Step (2) Secure structure and do not allow reentry for a minimum of 6 hours from the start of aeration (first opening of the seal, *TRAP*). During this time structures must remain posted.

When does the one hour aeration begin?

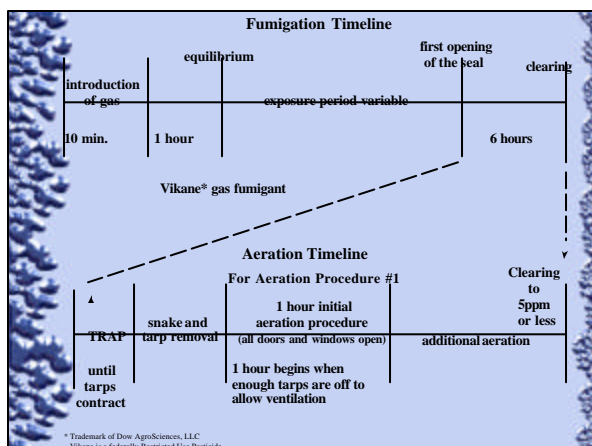
- When all operable doors and windows are open and enough of the tarps are down so that active ventilation can occur.
- *This one hour estimation will vary depending on each determining person.*

Vikane* Aeration Review

- Step (3): After the minimum 6 (8) hour waiting period, measure the concentration of Vikane in breathing zones. If the concentration of Vikane is greater than 5ppm, ventilate structure with operable doors and windows open for at least 10 minutes. Structure may be reoccupied when concentration is 5 ppm or less.

When does the 6 (or 8) hour aeration begin?

- At the breaking of the first seam. Meaning, the time in which the TRAP begins.
- Different from when the 1 hour active aeration begins.



Chloropicrin Review

- Vikane gas is odorless, therefore a warning agent must be released in the structure before the fumigation begins.
- Added precaution to make sure fumigated space remains free of people.
- Needs time to distribute through the structure before Vikane is released.
- **NOT** a clearing agent, rather a warning agent.

Chloropicrin Review

- Vikane label states:
 - *Chloropicrin must be used by a person certified to apply Vikane or under their supervision*
 - *Introduce 5-10 minutes prior to introduction of Vikane*
 - *Pour over cotton in a shallow container in the air stream of a fan*
 - *Do not use containers made of magnesium, aluminum, or their alloys...corrosive to such metals.*

Chloropicrin Review

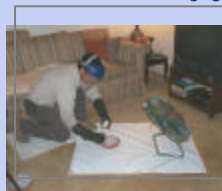
- Vikane label states:
 - *No more than 3 ounces per pic pan*
 - *1 oz/10,000-15,000 cubic feet*
 - *One pic introduction site per 45,000 cu. ft.*
 - *Removal of all chloropicrin containers during the one hour aeration will aid in dissipation*

Chloropicrin Review

- Chloropicrin **Recommendations**
 - Apply at each Vikane shooting site
 - Apply on each floor of a multi-story
 - Measure outside the structure
 - Avoid application in heavy "load" areas

Chloropicrin Review

- Personal Protective Equipment
 - Chemical resistant gloves (such as neoprene)
 - Full face shield or chemical goggles



Structural Fumigation Manual

- A *guide* to standard practices involved in structural fumigations.
- **However in emergency situations:**
1-800-992-5994 (normal business hours, after hours & weekends)

Chapter 1: Product Information

- Composition
 - Sulfuryl fluoride 99.8%
- Physical properties
 - odorless, colorless gas
- Characteristics of Structural Fumigants
- Toxicity Data

Chapter 1: Product Information

- Biological activity
 - inhalation toxicant
- Target pests
 - Dosages for various target pests
 - Table 1c, Page 7, Lethal Accumulated Dosages for various species

Chapter 2: Safety Precautions

- Worker Safety
 - Eye protection: goggles or face shield
 - Protective Clothing: nothing special required
 - Do Not wear rubber boots or gloves when applying Vikane
- Respiratory Protection
 - Required when in an unknown atmosphere or when concentrations exceed 5ppm.

Chapter 2: Safety Precautions

- Cylinder Safety
 - Store in well ventilated area away from work area or office
 - Store & transport upright
 - Should not be transported by air
 - If believed to be leaking, stay clear of the area and isolate cylinder

Chapter 3: First Aid/Poisoning

- Poisoning symptoms
 - Central nervous system depression
 - respiratory irritation
 - nausea
 - abdominal pain
 - slowing of movements and speech
- No known antidote

Chapter 3: First Aid/Poisoning

- First Aid Treatment
 - Skin - freezing injury
 - Moisten clothing before removing
 - Wash contaminated skin areas
 - Eyes - freezing injury
 - Flush eyes with plenty of water for 5 minutes
 - Consult medical personnel

Chapter 3: First Aid/Poisoning

- First Aid Treatment
 - Inhalation
 - move to fresh area, rest
 - Maintain body temperature
 - If breathing stops, start artificial respiration
 - If heart beat stops, start CPR
 - Obtain medical assistance

Chapter 4: Basics of Fumigation

- Typical pests: termites, beetles & more
- Penetration and Confinement
 - Objective is to confine fumigant long enough to control the pest
- Fumigation atmosphere & climatic effects
 - Economics of temperature

Chapter 5: Preparation

- Fact Sheet provided
- People, plants and pets must be removed
- Gas off, flames out
- Sealing the structure
- Gas distribution
- Secondary locks

Chapter 5: Preparation

- “When in doubt, take it out”

May Remain in Structure Unbagged

- ☐ soup can, unopened
- ☐ soda bottle, unopened
- ☐ wine bottle, unopened & sealed
- ☐ cosmetics, shampoo, soaps
- ☐ water cooler bottle, unopened

Should be removed or double-bagged in Nylofume® Bags

- ☐ cereal box, opened or unopened
- ☐ margarine tub, opened or unopened
- ☐ potato chip bag, opened or unopened
- ☐ eggs, fruits, vegetables
- ☐ water in cooler dispenser

Chapter 6: Dosage

- Half Loss Time (HLT)
- Ounce Hours
- Calculators: Fumiguide B, Fumiguide Fumiguide electronic calculator
- Monitored vs. unmonitored fumigations

Chapter 6: Dosage

- Factors affecting amount of gas required
 - Target pest
 - Tarp and seal condition
 - Wind speed
 - Volume of the structure
 - Type of underseal
 - Temperature (actual soil or slab)
 - Exposure period

Chapter 7: Warning Agent

- Chloropicrin: characteristics & effects
- Introduction
- Precautions
- Physical Properties

Chapter 8: Vikane Introduction

- Cylinder
 - Using and weighing
- Releasing of fumigant
 - Site selection
 - Shooting hoses
- Purpose, choice and positioning of fans
- How to avoid fog-outs
- General precautions

Chapter 9: Monitoring

- Guidelines
- Fumiscope operating and calibration procedures
- Actual vs. estimated HLT (half-loss time)
- Monitoring scenarios
- Gas savings, efficacy



Chapter 10: Aeration

- Factors influencing aeration time
 - Rate of air exchange - most important
 - Terminal fumigant concentration
 - Temperature - higher temperature increases diffusion rate
- Aeration procedures
- Safety considerations
- Clamp & tarp removal procedures

Chapter 11: Clearing

- Objective: 5ppm or less in breathing space
- Testing equipment: description, operation and calibration
 - Interscan gas analyzer
 - Miran Specific Vapor Analyzer



Chapter 12: Chamber Fumigations

- Types of chambers
- Preparation
- Introduction
- Aeration
- Using tarps as chambers
- Types of materials to be fumigated in chamber

Chapter 13: Vehicles

- Not for aircraft or submarines
- Should be treated as small structures, with some exceptions
- RR cars do not require chloropicrin if inspected, locked & guarded.
- Vehicles may not be moved or moving.
- Boats in water can be tarped with tarps extending below water surface

Chapter 14: Troubleshooting

- Cylinder leaks
- Metal corrosion
- Glass etching
- Stains
- Plant and turf damage
- Photographic materials
- Odors
- Poor control of pests

Chapter 15: Special jobs

- Large & multi-unit structures require special preparation, equipment, planning
- High dosage fumigations
- High value fumigations
- Short term fumigations
- Tape and Seal

Chapter 16: References

Chapter 17: Index

- alphabetical by topic

Chapter 18: Appendix

- Glossary of terms
- Label & MSDS
- Fact Sheet: English & Spanish
- Fumigator Stewardship Policy
- General Info on Vikane: the "Purple Sheet"
- Measuring/cubing guide
- Nylofume bags, bagging
- Calculator order form

Chapter 18: Appendix (cont)

- Ounce-Hours chart
- Aeration diagrams & timeline
- Tarp Removal Aeration Plan (TRAP)
- Chloropicrin rates
- Literature resources & order form

Vikane* Resources

- MANUALS
- FACT SHEETS
- NYLOFUME*
- INSTRUCTION PADS
- LABELS/MSDS
- GENERAL INFO ON VIKANE GAS
- ARTICLES AND RESEARCH PAPERS
- SALES LITERATURE
- TECHNICAL ASSISTANCE
- HOMEOWNER QUESTIONS
- FUMIGUIDE* B & Y
- CALCULATORS

Thank - You

- Questions and Input